

Notice of Allowability

Application No.

10/776,708

Examiner

Brian Ensey

Applicant(s)

ALEXANDER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment dated 11/01/06.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jay Sbrollini on December 21, 2006.

The application has been amended as follows:

In the claims:

In claim 1, lines 2 and 3, "within an extended frequency range that includes a high frequency band between 8 kHz and 11 kHz" has been deleted.

In claim 1, line 8, --reproduced by the speaker driver-- has been added between "sound" and "within".

In claim 1, line 8, "the extended" has been deleted and --a predetermined--has been added after "within".

In claim 2, line 3, "extended" has been deleted and -- predetermined --has been added after "within the".

In claim 3, line 2, "extended" and "wide" have been deleted and -- predetermined -- has been added after "wherein: the".

In claim 4, line 2, "extended" and "wide" have been deleted and -- predetermined -- has been added after "wherein: the".

In claim 18, lines 3 and 4, "extended" and "of said speaker driver" have been

deleted and -- predetermined -- had been added after

"corresponding to the".

In claim 19, lines 2 and 3, "within an extended frequency range that includes a high frequency band between 8 kHz and 11 kHz" has been deleted.

In claim 19, line 9, --reproduced by the speaker driver-- has been added between "sound" and "within".

In claim 19, line 9, "the extended" has been deleted and --a predetermined--has been added after "within".

In claim 20, line 3, "extended" has been deleted and -- predetermined --has been added after "within the".

In claim 21, line 2, "extended" and "wide" have been deleted and -- predetermined -- has been added after "wherein: the".

In claim 22, line 2, "extended" and "wide" have been deleted and -- predetermined -- has been added after "wherein: the".

In claim 29, lines 4 and 5, "extended" and "of said speaker driver" have been deleted and -- predetermined -- had been added after "corresponding to the".

After claim 29 add the following new claims:

--30. (new) An audio speaker system according to claim 19, wherein:

the predetermined frequency range includes a frequency band between 8 kHz and 11 kHz.--

--31. (new) An audio speaker system according to claim 1, wherein:

the predetermined frequency range includes a frequency band between 8 kHz and 11 kHz.--

The following is an examiner's statement of reasons for allowance: The present invention is directed to an audio speaker system employing an axi-symmetrical horn with wide dispersion angle characteristics over a predetermined frequency band. Independent claim 1 identifies the uniquely distinct feature of a horn having a throat disposed substantially adjacent a speaker driver and an axi-symmetrical waveguide surface with a circular cross-section along its entire length from the throat to the mouth for dispersing a predetermined frequency range at a dispersion angle greater than 90 degrees. Independent claim 19 identifies the uniquely distinct feature of a horn having a throat disposed substantially adjacent a speaker driver and an axi-symmetrical waveguide surface with a circular cross-section along its entire length from the throat to the mouth and being curvilinear with a smooth flare rate for dispersing a predetermined frequency range at a dispersion angle greater than 90 degrees. The closest prior art, Klayman (US 3930561) teaches a horn with a conical section and an exponential flare and produces a dispersion angle of about 120 degrees, but fails to teach a conical cross-section throughout the entire length of the waveguide from throat to mouth; and Maekawa et al. (US 3867586) teaches a speaker driver with a horn throat disposed substantially adjacent the speaker driver. The prior art fails to anticipate or render the independent claims obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, Va. 22313-1450

Or faxed to:

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".
Hand-delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Arlington, VA 22314

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BKE
December 21, 2006


SINH TRAN
SUPERVISORY PATENT EXAMINER